

इंटरनेट

मानक

Disclosure to Promote the Right To Information

Whereas the Parliament of India has set out to provide a practical regime of right to information for citizens to secure access to information under the control of public authorities, in order to promote transparency and accountability in the working of every public authority, and whereas the attached publication of the Bureau of Indian Standards is of particular interest to the public, particularly disadvantaged communities and those engaged in the pursuit of education and knowledge, the attached public safety standard is made available to promote the timely dissemination of this information in an accurate manner to the public.

“जानने का अधिकार, जीने का अधिकार”

Mazdoor Kisan Shakti Sangathan

“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 3406-2 (1986): Dimensions for countersinks and counterbores, Part 2: Counterbores [PGD 20: Engineering Standards]



“ज्ञान से एक नये भारत का निर्माण”

Satyanarayan Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

BLANK PAGE



Indian Standard

DIMENSIONS FOR COUNTERSINKS
AND COUNTERBORES

PART 2 COUNTERBORES

(Second Revision)

1. Scope — Covers dimensions for counterbores for screws.

2. Type

2.1 Type H — for screws in accordance with:

- a) IS : 1366 - 1982 Specification for slotted cheese head screws (*second revision*)' in the diameter range 1.6 to 10 mm.
- b) IS : 6101 - 1982 'Specification for slotted pan head screws (*first revision*)' in the diameter range 1.6 to 10 mm.
- c) IS : 7483 - 1985 'Specification for cross recessed pan head screws (*first revision*)' (in the diameter range 2.5 to 10 mm).

2.1.1 Type H 1 — for screws referred to in 2.1 with washers in accordance with IS : 3063-1972 'Specification for single coil rectangular section spring washers for bolts, nuts and screws (*first revision*)'.

2.1.2 Type H 2 — for screws referred to in 2.1 with washers in accordance with IS : 2016 - 1967 'Specification for plain washers (*first revision*)'.

2.1.3 Type H 3 — for screws referred to in 2.1 with washers in accordance with IS : 6735 - 1972 'Specification for spring washers for screws with cylindrical head'.

2.2 Type K — for screws in accordance with IS : 2269 - 1981 'Specification for hexagonal socket head cap screws (*second revision*)' in the diameter range 1.6 to 36 mm.

2.2.1 Type K 1 — for screw referred to in 2.2 with washers in accordance with IS : 3063 - 1972.

2.2.2 Type K 2 — for screws referred to in 2.2 with washers in accordance with IS : 2016 - 1967.

2.2.3 Type K 3 — for screws referred to in 2.2 with washers in accordance with IS : 6735 - 1972.

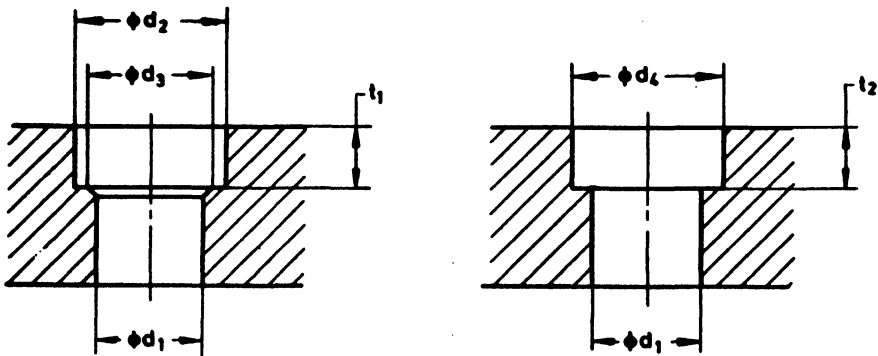
Adopted 21 March 1986

© December 1986, BIS

Gr 2

3. Dimensions and Designation

3.1 Dimensions



All dimensions in millimetres.

For Nominal Size		1	1·2	1·4	1·6	1·8	2	2·5	3	(3·5)	4	5	6	8
d_1	medium (m) H13	1·2	1·4	1·6	1·8	2·1	2·4	2·9	3·4	3·9	4·5	5·5	6·6	9
	fine (f) H12	1·1	1·3	1·5	1·7	2	2·2	2·7	3·2	3·7	4·3	5·3	6·4	8·4
d_2	H13	2·2	2·5	2·8	3·3	3·8	4·3	5	6	6·5	8	10	11	15
d_3		—	—	—	—	—	—	—	—	—	—	—	—	—
t_1	Type H	0·8	0·9	1	1·2	1·5	1·6	2	2·4	2·9	3·2	4	4·7	6
	Type K	—	—	1·6	1·8	—	2·3	2·9	3·4	—	4·6	5·7	6·8	9
	Tolerance	+0·1 0			+0·2 0						+0·4 0			
d_4	Type H1, K1	—					5·5	6·5	7	8	9	11	13	18
	Type H2, K2	—					6	8	9	9	10	13	13	20
	Type H3, K3	—					—	—	6	6·5	8	10	11	15
t_2	Type H1, H2, H3	—					2·2	2·7	3·3	3·8	4·5	5·5	6·5	8
	Type K1, K2, K3	—					—	—	4·3	—	5·5	7	8·5	11
	Tolerance	—					+0·2 0				+0·4 0			

AMENDMENT NO. 1 OCTOBER 1987

TO

IS:3406(Part 2)-1986 DIMENSIONS FOR
COUNTERSINKS AND COUNTERBORES

PART 2 COUNTERBORES

(Second Revision)

(Page 2, clause 3.1, informal table, against
t1, Type K and under the column 'For Nominal Size'
5) - Substitute '5.7' for '57'.

[Page 3, clause 3.1, informal table, against
d1, medium (m) and under the column 'For Nominal
Size' 12] - Substitute '13.5' for '1.35'.

(EDC 1)

Reprography Unit, BIS, New Delhi, India

For Nominal Size		10	12	(14)	16	18	20	22	24	27	30	33	36
d_1	medium (m) H13	11	1·35	15·5	17·5	20	22	24	26	30	33	36	39
	Fine (f) H13	10·5	13	15	17	19	21	23	25	—	—	—	—
d_2	H13	18	20	24	26	30	33	36	40	43	48	53	57
d_3		—	15·5	17·5	19·5	22	24	26	28	33	36	39	42
t_1	Type H	7	8	9	10·5	11·5	12·5	13·5	14·5	—	—	—	—
	Type K	11	13	15	17·5	19·5	21·5	23·5	25·5	28·5	32	35	38
Tolerance		+ 0·4 0									+ 0·6 0		
d_4	Type H1, K1	20	24	26	30	33	36	40	43	46	53	57	61
	Type H2, K2	24	26	30	33	36	40	43	46	53	61	63	71
	Type H3, K3	18	20	24	26	30	33	36	40	43	48	53	57
t_2	Type H1, H2, H3	9·5	11	12·5	14	15	16·5	17·5	19·5	—	—	—	—
	Type K1, K2, K3	13·5	16	18·5	21	23	25·5	27·5	30·5	33·5	38	41	44
	Tolerance	+ 0·4 0									+ 0·6 0		

Note 1 — Sizes shown in brackets are of second preference.

Note 2 — Clearance hole d_1 according to medium and fine series of IS : 1821 - 1982 'Dimensions for clearance holes for bolts and screws (second revision)'.

Note 3 — 90° counterbore or radiused in case of nominal size 12 mm and above. It should be deburred in case of nominal size less than 12 mm.

3.2 Designation — A counterbore type H with clearance hole of medium (m) series and having nominal size 10 shall be designated as:

Counterbore H m 10 — IS : 3406

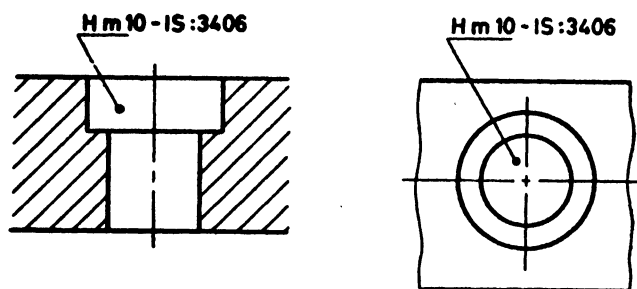
IS : 3406 (Part 2) - 1986

4. Methods of Representation in Drawings

4.1 Counterbores shall be identified either by code designation or using dimension entries.

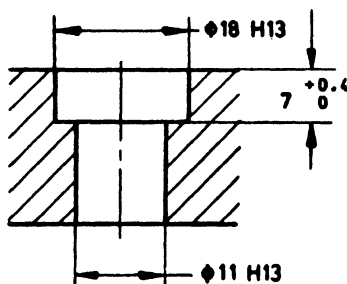
Example 1

When using 'Hm 10 — IS 3406' as code designation



Example 2

When using dimension entries



EXPLANATORY NOTE

The standard was originally published in 1966 to cover the dimensions of countersink screws M 1.6 to M 20 and counterbores for cheese head and socket head screws M 1.6 to M 26 according to IS : 1365 - 1962 'Specification for slotted countersunk head machine screws (1.6 to 20 mm)' and IS : 1366 - 1962 'Specification for slotted cheese head screws (1.6 to 20 mm)' respectively.

It was first revised in 1975 and published in two parts: Part 2 Covered the dimensions of counterbores of two types. Type A for screws in accordance with IS : 1366 - 1968 'Specification for slotted cheese head screws (*first revision*)' in the diameter range 1.6 to 20 mm, and Type B for screws in accordance with IS : 2269 - 1967 'Specification for hexagonal socket head cap screws (*first revision*)' in the diameter range 3 to 52 mm. In that revision, care was taken to conform the dimensions specified in IS : 1821 - 1967, IS : 5704 - 1970 'Specification for counterbores with parallel shanks' and IS : 5710 - 1970 'Specification for counterbores with morse taper shanks'.

This second revision incorporates a number of changes as a result of further experience gained and other developments in this field.

The main modifications are:

- a) Type A and B redesignated as type H and K.
- b) Additionally covers IS : 6101 - 1982 and IS : 7483 - 1974 under Type H.
- c) Dimensions limited up to diameter 36 mm in accordance with IS : 2269 - 1982.
- d) Incorporation of sub-types, such as H1, H2, H3, and K1, K2, K3 to cover the dimensions with washers in accordance with IS : 3063 - 1972, IS : 2016 - 1967 and IS : 6735 - 1972 respectively.
- e) Methods of representation on drawings.

Part 1 of this standard covers the dimensions for countersinks.

In the preparation of this standard assistance has been derived from DIN 74 Part 2 - 1980 'Countersinks for cheese head screws' issued by DIN Deutsches Institut für Normung e.v. Berlin.